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ABSTRACT

The tendency for individuals to reduce their own efforts when others are available to respond has been called "social loafing." Social loafing has been found also to characterize collective endeavors on tasks considered cognitively efffortful. To test the hypothesis that reduced cognitive effort related to the presence of a coacting group would lead to a less systematic analysis of covariation information in forming causal attributions and a possibly greater susceptibility to salience factors, 36 undergraduates completed a 48 item questionnaire in which each item consisted of a statement of person-object relationship, i.e., like or dislike; supplemental information; and rating scales for subjects' self reports about the separate causal influences of the person and the object in the relationship. Results indicated that when a person was described as disliking an object and covariation information suggested that the object was the primary cause of the relationship, subjects who shared responsibility for the attribution task with a group were less extreme in their attributions than subjects who felt they were individually responsible. The findings suggest that group diffusion of cognitive effort is predictive of the degreee and quality of causal attributions. (Author/PAS)

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Group Diffusion of Cognitive Effort as a Determinant of Attribution

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Running head: Social Loafing and Causal Attribution

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Abstract

The tendency for individuals to reduce their own efforts when others are available to respond has been called "social loafing." The present research evaluated the impact of this phenomenon upon causal attributions while varying various factors known to guide perceived causality, e.g., supplemental covariation and salience information. Thirty-six undergraduate volunteers served as subjects and completed a 48-item questionnaire. Each item consisted of a statement of a person-object relationship (like or dislike), supplemental information, and rating scales for subjects' self-report regarding the separate causal influences of the person and object in the relationship. Results indicate that when a person was described as disliking an object and covariation information suggested that the object was the primary cause of the relationship. subjects who shared responsibility for the attribution task with a group were less extreme in their attributions than subjects who felt they were individually responsible.

Problem and Purpose

Current research has suggested that persons reduce their individual efforts when they are part of a group that is responsible for a task as compared to when they are individually responsible. This tendency has been called "social loafing" (Latane, Williams, & Harkins, 1979). In addition to its impact on simple group behaviors, social loafing has been found to characterize collective endeavor on tasks that may be considered cognitively effortful (Petty, Harkins, Williams, & Latane, 1977; Petty, Harkins, & Williams, 1980).

The perception of causality is a task which might be influenced by the amount of cognitive effort exerted. Specifically, low cognitive effort during attribution processing may lead one to develop simple "top of the head" attributions (Taylor & Fiske, 1978) such that attributions are directed only to the most salient of the possible causal agents. On the other hand, high cognitive effort may engage complex attribution processes such that attributions are developed more on the basis of the covariation between an observed effect and its possible causes (e.g., consensus, distinctiveness, and consistency information; see Kelley, 1971; McArthur, 1972).

The purpose of the present investigation was to evaluate the impact of group size upon causal attributions when covariation and salience information were varied. Our central hypothesis was that reduced cognitive effort related to the

presence of a coacting group would lead to a less systematic analysis of covariation information in forming causal attributions and a possibly greater susceptibility to salience factors.

Method

Subjects

Thirty-six undergraduate volunteers served as subjects in a mixed model experimental design consisting of two between- and five within-subjects factors. Subjects participated in small groups varying in size from 4-10 persons and were randomly assigned individually to the between-subjects experimental conditions such that gender was approximately equivalent across the groups.

Procedure and Experimental Design

Subjects completed a questionnaire containing 48 items derived from a 2 x 2 x 2 x 2 within-subjects design with three replications in each cell. The within-subjects factors were verb form (like/dislike), locus of causality (person-locus/object-locus), salience (person-salient/object-salient), and the sex of the person described in the item (i.e., stimulus sex). Replications were varied by constructing three unique 16-item sets of person-object pairings within which the specific

order of item presentation was randomly determined. To accurately assess the effects of repeated measurement of attributions across time, replications and trials were counterbalanced across the experimental manipulations.

Group size (individual/pseudo group) constituted a between-subjects factor and was manipulated by varying the cover sheet instructions of the questionnaires in a manner similar to that described by Petty, Harkins, & Williams (1980). Subjects read that the psychology department was interested in how people gain an understanding of the causal relationships in social situations. "On the following pages you will read a series of descriptions concerning the relations between persons and objects. In each case, we would like you to decide to what degree the person and the object brought about the relationship...A computer was used in constructing these descriptions. The descriptions in your booklet represent a unique configuration of social information (the computer generated 10 identical questionnaires). You are the only (one of 10) person(s) who will be reading these particular descriptions. Thus, *you alone bear* (the 10 of you share) the full responsibility for evaluating this information." The instructions for group evaluators also included the sentence "your judgements will be combined with those of the other nine persons to form an overall rating for each description."

In addition, two unique person-object pairings among the 48 items were randomly generated, thus producing two forms of the

questionnaire. This constituted a between-subjects variable (questionnaire form) with two levels (i.e., form 1/form 2).

Description of Items

Each questionnaire item consisted of a statement of a relationship between a person and an object. In order to manipulate verb form, half of the stated relationships were positive (e.g., John likes the car) and half were negative (e.g., Joan dislikes the film). In order to manipulate stimulus sex, half of the persons described in the items were male and half were female. Different names and objects were randomly assigned to each of the 48 items.

Following the initial statement of each item, information was given concerning the consensus, distinctiveness, and consistency of the specified relationship. This constituted the locus of causality manipulation. Given the results of McArthur's (1972) experiment, we chose the two cases that were found to produce the strongest person-oriented attribution (person-locus condition) and the strongest object-oriented attribution (object-locus condition). The following is an example of a person-oriented item: "Joe likes the film. Hardly anyone else likes the film (low consensus). Joe likes most other films (low distinctiveness). Joe has always liked this film in the past (high consistency)." The next example illustrates an object-oriented item: "Fred likes the car. Almost everyone else likes the car (high consensus). Fred does

not like most other cars (high distinctiveness). Fred has always liked this car in the past (high consistency)."

Salience was manipulated by the order of the subject and object of the sentences (cf., Pryor & Kriss, 1977). An object-salient item presented the object first in the sentences (e.g., "The restaurant is liked by Sue") whereas a person-salient item presented the person first in the sentences (e.g., "Sue likes the restaurant").

Dependent Measure

Following each item were two 11-point rating scales with the endpoints labeled "not at all" and "completely." On one of these scales the subject was asked to indicate the extent to which he or she thought the stated relationship was caused by the object, and on the other, the extent to which it was caused by the person. The dependent measure was an attribution index consisting of the difference between the ratings on these two scales (cf., Storms, 1973) in which a larger number indicates a greater causal influence by the object and a smaller number indicates a greater causal influence by the person.

Results and Discussion

The data were analyzed in a 2 (group size) x 2 (questionnaire form) x 2 (locus of causality) x 2 (salience) x 2

(stimulus sex) x 2 (verb form) x 3 (trial) repeated measures analysis of variance with the last five factors being within-subject variables. Initial results indicated that the form of the questionnaire had no influence on the dependent measure, so all results are reported collapsing across this factor.

Results revealed a three-way interaction between the manipulations of group size, locus of causality, and verb form ($F(1,34)=6.28$, $p < .01$) which is depicted in Figure 1. An analysis of simple effects indicated that the two-way interaction between group size and verb form was significant in the object-locus condition ($F(1,34)=11.36$, $p < .005$) but not in the person-locus condition. (The main effect of group size was not signficant within either the object- or person-locus conditions). Further analysis of this significant group size x verb form interaction indicated that the simple main effect of group size was significant under the "dislike" ($F(1,34)=4.64$, $p < .05$) but not under the "like" verb form.

These findings suggest that group diffusion of cognitive effort does influence causal attributions, particularly so under the object-locus and "dislike" verb form condition. The effect of group size within only the "dislike" verb form is not surprising when one considers the earlier findings by Pryor & Kriss (1977) that person and object attributions are more extreme under negative (dislike) as opposed to positive (like) valence conditions. In fact, the same type of interaction between locus of causality and verb form was found in the

present study ($F(1,34)=38.28$, $p < .05$). Interestingly, the means for the person-locus condition were in a direction which also suggest that subjects were more extreme in their attributions when they felt they were individually responsible for the task as opposed to when they believed that they shared responsibility for that task with a group.

The results also revealed a three-way interaction between the manipulations of locus of causality, stimulus sex, and trials ($F(2,68)=3.84$, $p < .05$) which is shown in Figure 2. An analysis of simple effects indicated that the two-way interaction between trial and stimulus sex was significant in the person-locus condition ($F(2,68)=5.80$, $p < .005$) but not in the object-locus condition. The simple main effects of trial and stimulus sex were also not significant within the object-locus condition. Further analysis of the significant two-way interaction within the person-locus condition indicated that there was a significant linear trend across trials under a male stimulus sex ($F(1,34)=5.77$, $p < .05$) but not under the female stimulus sex. The simple main effect of stimulus sex also was significant but only at the third trial ($F(1,34)=10.32$, $p < .01$).

These findings suggest a possible sex bias in the attribution process of these subjects such that males are perceived as more causal over time than females under conditions where covariation information directs attributions toward the person rather than the object. This is particularly interesting when one considers that both males and females were included as

subjects in this experiment (although males were in the majority). One issue for future research might be a more careful investigation of this possible sex bias, perhaps by including subject sex as an experimental factor.

The manipulation of salience did not interact with the group size manipulation nor did it produce a general main effect as found earlier in Pryor & Kriss (1977). There was evidence for a more qualified salience effect inasmuch as a three-way interaction was found between locus of causality, salience, and stimulus sex ($F(91,34)=4.99$, $p < .05$). An analysis of simple effects indicated that the two-way interaction between locus of causality and stimulus sex was significant in the object-salient condition ($F(1,34)=3.99$, $p < .05$) but not in the person-salient condition. A further analysis of this interaction indicated that the main effect of stimulus sex was significant in the person-locus ($F(1,34)=6.12$, $p < .05$) but not the object-locus condition. An examination of these means indicated that the perceived causality of females was less than males under a person-locus object-salient condition.

In general, these latter results can also be interpreted as evidence for a sex bias in the attribution process with these subjects. Apparently, the perceived causality of females (in contrast to males) can be influenced by a salience manipulation under certain conditions of covariation information.

Conclusions

The results suggest that group diffusion of cognitive effort is predictive of the degree and quality of causal attributions. Specifically, under negative valence conditions, when subjects shared responsibility with a group regarding an attribution task, their attributions were less extreme than if they felt they were individually responsible. This finding is especially interesting when one considers Tesser's (1978) research on attitude polarization accompanying longer periods of thinking about an attitude issue. Perhaps in a similar fashion, individual responsibility for an attribution task may induce greater thought and cognitive schema engagement resulting in more extreme or "polarized" attributions relative to conditions where responsibility is shared with members of a group.

Additional findings suggest possible sex biases in the attribution process such that males are perceived as exerting more causal influence than females over time, and this causal influence seems less susceptible to salience effects.

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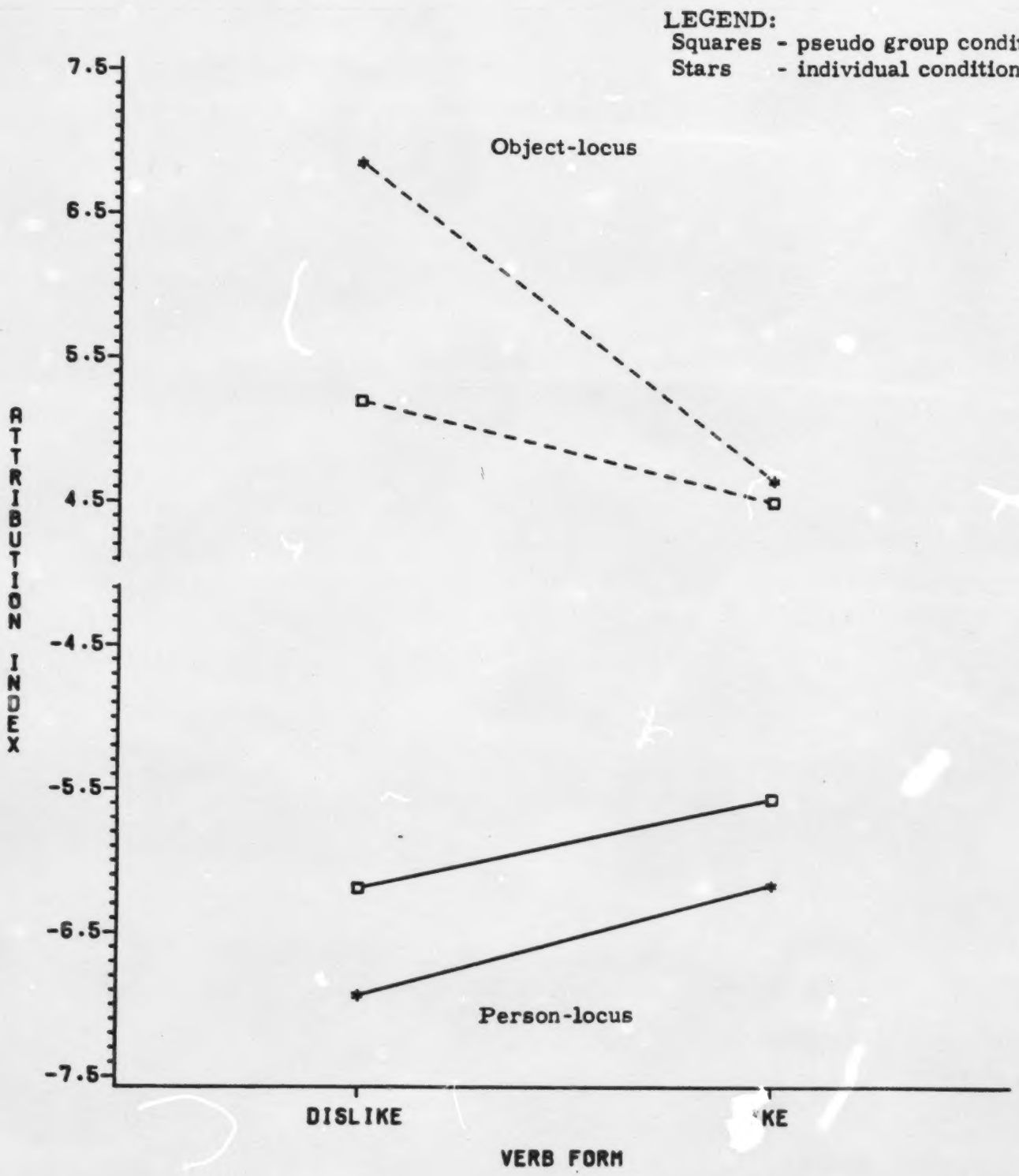

Figure 1. Three-way interaction between the experimental manipulations of group size, locus of causality, and verb form.

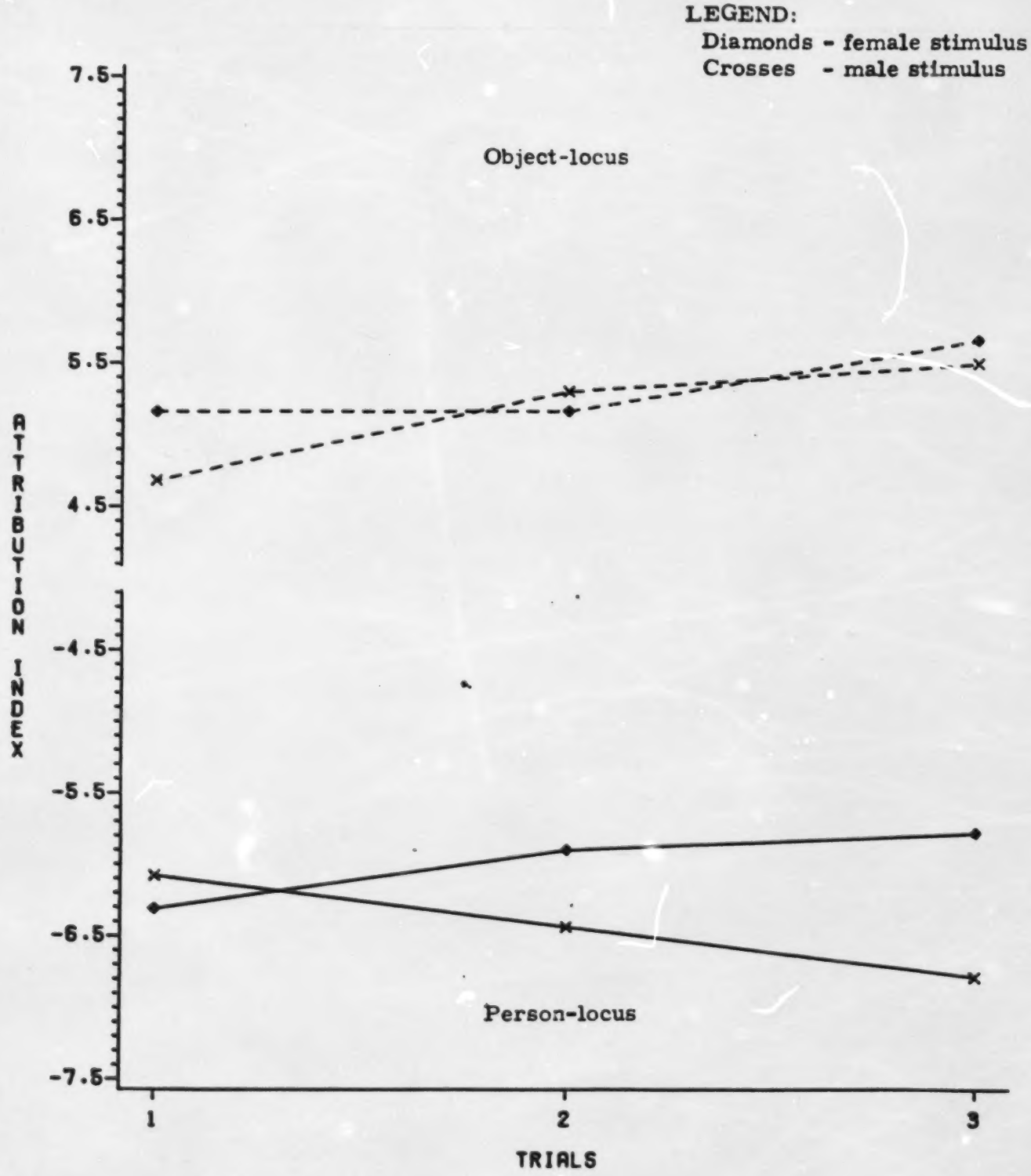

Figure 2. Three-way interaction between the experimental manipulations of locus of causality, stimulus sex, and trials.